



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,774	01/05/2001	Evelyn Duesterwald	10990964-1	3177

7590 01/29/2004

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

COLEMAN, ERIC

ART UNIT	PAPER NUMBER
----------	--------------

2183

5

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/755,774

Applicant(s)

DUESTERWALD ET AL.

Examiner

Eric Coleman

Art Unit

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 and 13-21 is/are allowed.
- 6) ☒ Claim(s) 10-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 . 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (patent No. 6,202,204).

3. Wu taught the invention substantially as claimed including a data processing ("DP") system comprising: First instruction and second instruction (e.g., first and second instructions in code sequence in example 18 of column 17) where a first memory location ([addr]) and first register (r1) contained the same value (e.g., see col. 17, lines 1-36), wherein the first instruction stores a value into a second memory location and a second instruction subsequent to the first instruction loads a value from the first memory location into a second register (a further example is shown at col. 4, lines 45-67); and replacing the second instruction such that a run-time determination is made as to whether a load into the register would be redundant, in which case a register copy rather than a load from memory is executed (e.g., see col. 17, line 1-col. 18, line 35, and col. 20, lines 15-62).

4. Wu did not expressly detail (claim 10) the identifying of the first and second instructions. Wu however taught a program that comprised a first (store) instruction and a second (load) instruction where the program determined whether the second (load)

Art Unit: 2183

instruction performed a redundant load depending of the contents of the register locations (e.g., see col. 4, lines 45-67 and col. 17, line 1-col. 18, line 35 and col. 20, lines 15-62). Therefore for the conditions of determining if a redundant load existed it would have been obvious to one of ordinary skill in the DP art that the Wu system identified the first and second instructions.

5. As to claims 11,12 Wu determined whether the register locations were the same for determining if a redundant load existed and if so replacing the redundant load with a copy instruction. There was a one to one correspondence between the registers and memory locations utilized. Therefore it would have been obvious to one of ordinary skill that that testing whether the memory locations that were accessed by the registers were the same were the same would have provided an alternative way to determine if a load would have been redundant (e.g., see col. 12, line 32-col. 13, line 11).

Allowable Subject Matter

6. Claims 1-9 and 13-21 are allowed.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chang (patent No. 5,854,933) disclosed a method for optimizing a computer program by moving certain load and store instructions out of a loop (e.g., see abstract).

Ebcioğlu (5,542,075) disclosed a system for improving performing out of sequence load operations in a computer system (e.g., see abstract).

Arora (6,658,559) disclosed a system for advancing load operations (e.g., see abstract).

Breternitz (patent No. 5,537,620) disclosed a system with redundant load elimination on optimizing compilers (e.g., see abstract).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Coleman whose telephone number is (703) 305-9674. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (703) 305-9712. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-305-3900.

EC



ERIC COLEMAN
PRIMARY EXAMINER